MULTI-LAYERED FLEX CIRCUIT FABRICATION

•The fabrication sequence for LARC-SI Flex Circuits is depicted in following slide

•Process:

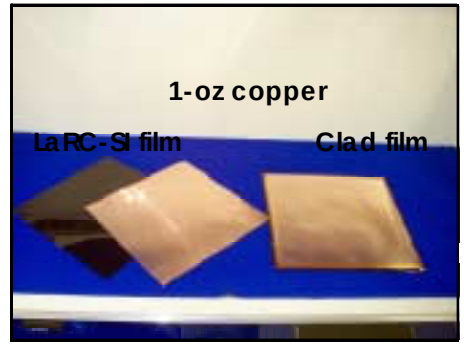
Isotropic LARC-SI film is fabricated in an ultra-clean environment using a doctor-blade process. Current thickness is from 4 to 2 mils with 1-mil procedures being separately developed. The films are copper clad , currently with 1-oz or less copper foil or vapor deposited. A photographic resist coat is applied and an exposure performed using respective images of the circuit layers. The residual from the exposure is washed an the exposed copper removed.. The individual layers are stacked and aligned, vacuum bagged, and otherwise prepared for consolidation in an autoclave. The product is multi-layered flex circuit. Currently, through Vias are post processed.

The details of the process are omitted pending patent application for some of the processing procedures.

MULTI-LAYERED FLEX CIRCUIT FABRICATION

Clean environment
(glove box in a clean room)

2-Mil LaRC-SI film



Copper cladding

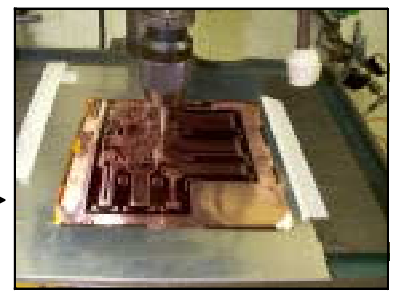
Spinning photo resist

Art pattern exposure

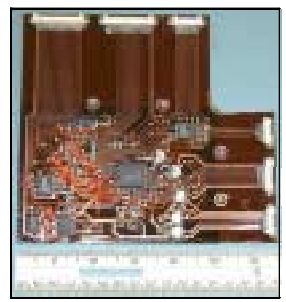
Exposed & etched circuit layers

Stacking, aligning, & bagging layers

Autoclaving flex stack



Punching through Vias



Product: circuit